R E M A R K

A Substitute Specification, including a marked-up version showing the amendments to the specification, are being submitted concomitantly herewith to reply to the objections to the specification set forth on pages 2 to 4 of the Office Action. No new matter is introduced by the enclosed Substitute Specification.

Claims 1 and 2, 6 to 8 and 12 were objected to for the reasons set forth at the middle of page 4 of the Office Action.

The claims were amended to avoid the objections.

Claims 1 to 12 were rejected under 35 USC 112, first paragraph, for the reasons set forth in the first paragraph on page 5 of the Office Action.

The claims were amended to recite that the metal is Bi or In.

Claims 4, 5, 10 and 11 were rejected under 35 USC 112, first paragraph, for the reasons set forth in the second paragraph on page 5 of the Office Action.

It was alleged in the Office Action that the specification does not provide enablement for a metallic powder having an average particle size of 100 μm or less.

"A metallic powder having an average particle size of 100 μm or less" means that the metal to be used as an additive (i.e.,

bismuth and indium) to a powder of zinc alloy should have a particle size which passes through a sieve having openings of 100 μm. This is because a suitable amount of powdered bismuth or indium must be effectively dispersed on the particles of zinc alloy powder (see page 8, lines 1-5 of the specification). Accordingly, it will be understood to one of ordinary skill in the art that the finer powder, the better.

Claims 1 to 12 were rejected under 35 USC 112, second paragraph, for the reasons set forth on page 6 of the Office Action.

As discussed hereinabove, the claims were amended to define the additional metal as Bi or In.

Enclosed is a MARKED UP VERSION OF THE AMENDMENTS TO THE CLAIMS.

It is respectfully submitted that the present claims comply with all the requirements of 35 USC 112.

The present inventor discovered that when a powder of metallic bismuth or metallic indium is added to a powder of zinc alloy and the resulting mixture is used for the production of an active material for a negative electrode in an alkaline cell, an improved active material can be obtained.

Claims 1 to 12 were rejected under 35 USC 102 as being anticipated by Glaeser USP 5,240,793 for the reasons set forth on pages 7 to 8 of the Office Action.

Glaeser USP 5,240,793 teaches that a zinc powder that contains bismuth and/or indium as an alloying element is useful as anode active material because of the decreased amount of hydrogen gas evolution. In the present invention, the use of such a zinc powder as taught in Glaeser is no more than a Comparative Example. The present invention relates to a combined effect of using bismuth and/or indium both as an alloying element as an additive to the alloyed zinc already containing bismuth and/or indium. The combined effect is clearly shown in the tables and figures given in the specification. In Glaeser, a zinc alloy containing as much as 20 to 30 ppm lead is used. The use of lead makes it easy to obtain a zinc powder of low hydrogen gas evolution, but the use of lead is not favorable from an ecological viewpoint. In contrast, in the present invention, an alloyed zinc free from mercury and also free from lead is used. Furthermore, the amount of gas evolution is much less than in the case of Glaeser. This is particularly true when a bismuth powder is used as a metal powder added to a zinc alloy powder. Attention is directed to Fig. 1 as well as Table 1 of the present application.

Claims 1 to 3, 6 to 9 and 12 were rejected under 35 USC 102 as being anticipated by Urry USP 6,022,639 for the reasons set forth at the middle of page 8 of the Office Action.

Claims 4, 5, 10 and 11 were rejected under 35 USC 103 as being unpatentable over Urry USP 6,022,639 for the reasons set forth on page 9 of the Office Action.

Urry discloses that it is known in the art to alleviate the cell leakage problems associated with hydrogen gas generation by adding indium and bismuth to zinc alloy powders. In another embodiment of Urry, indium is coated on the alloys. However, Urry does not teach that by using a zinc alloy powder containing bismuth and/or indium as an alloy component, which powder having been dry mixed with a metallic powder of bismuth and/or indium, hydrogen gas evolution can be decreased much more than in the case when only said zinc alloy powder is used without using said metallic powder.

As is clear from the above, an important feature of the present invention resides in that bismuth and/or indium is used both as an alloy component in a zinc alloy powder and as a metallic powder to be added to said zinc alloy powder. Accordingly, the patentability of the present invention should be considered not simply based on the particle size of the additional metal, but based on such feature of the invention discussed above.

It is respectfully submitted that applicant's claimed invention is not anticipated and is not rendered obvious over the

references in view of the many distinctions discussed hereinabove.

Reconsideration is requested. Allowance is solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,

Reg. No. 17,031

for

RICHARD S. BARTH
REG. NO. 28,180

FRISHAUF, HOLTZ, GOODMAN, LANGER & CHICK, P.C.
767 THIRD AVENUE - 25TH FLOOR
NEW YORK, NEW YORK 10017-2023
Tel. No. (212) 319-4900
Fax No. (212) 319-5101
RSB/ddf

Encs.: (1) PETITION FOR EXTENSION OF TIME
(2) SUBSTITUTE SPECIFICATION, including MARKED UP VERSION OF THE SUBSTITUTE SPECIFICATION
(3) MARKED UP VERSION OF THE AMENDMENTS TO THE CLAIMS

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MARKED UP VERSION OF THE AMENDMENTS TO THE CLAIMS

1. (Amended) A negative electrode active material for use in an alkaline cell [characterized by] comprising a mixture of a zinc alloy powder [for use in a cell] and an additional metal [,wherein said additional metal whose trivalent compound is chemically stable at room temperature and atmospheric pressure] selected from the group consisting of Bi and In.

2. (Amended) A negative electrode active material for use in an alkaline cell [characterized by] comprising a mixture of a zinc alloy powder [for use in a cell] and an additional metal selected from the group consisting of Bi and In incorporated therein in an amount of 50 - 1000 ppm by weight based on the amount of said zinc alloy powder [for use in a cell, said additional metal being a metal whose trivalent compound is chemically stable at room temperature and atmospheric pressure].

5. (Amended) The negative electrode active material for use in an alkaline cell according to Claim [3] 1 or 2, wherein said additional metal is a metallic powder with an average particle size of 100 μm or less.

6. **(Amended)** A negative electrode active material for use in an alkaline cell of low gas generation comprising a mixture of a [metallic] powder <u>of a metal selected from the group consisting of Bi and In</u> and a zinc alloy powder [for use in a cell], said mixture being prepared by dry mixing said metallic powder and said zinc alloy powder[, the metal of said metallic powder being one whose trivalent compound is chemically stable at room temperature and atmospheric pressure].

7. **(Amended)** A method of preparing a negative electrode active material for use in an alkaline cell comprising the step of mixing a zinc alloy powder [for use in a cell] with an additional metal[, said additional metal being a metal whose trivalent compound is chemically stable at room temperature and atmospheric pressure] <u>selected from the group consisting of Bi and In</u>.

8. **(Amended)** A method of preparing a negative electrode active material for use in an alkaline cell comprising the step of mixing a zinc alloy powder [for use in a cell] with an additional metal[, said additional metal being a metal whose trivalent compound is chemically stable at room temperature and atmospheric pressure] <u>selected from the group consisting of Bi</u>

and In, said additional metal being added in an amount of 50 to 1000 ppm by weight based on the weight of the zinc alloy powder [for use in a cell].

11. (Amended) The method of preparing a negative electrode active material for use in an alkaline cell according to Claim [9] 7 or 8, wherein said additional metal is a metallic powder with an average particle size of 100 μm or less.

12. (Amended) A method of preparing a negative electrode active material for use in an alkaline cell of low gas generation comprising the step of dry mixing a zinc alloy powder [for use in a cell] with a powder of an additional metal[, said additional metal being a metal whose trivalent compound is chemically stable at room temperature and atmospheric pressure] selected from the group consisting of Bi and In.